

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

**IN RE: STEEL ANTITRUST
LITIGATION**

Case No. 08-cv-5214

Honorable James B. Zagel

**THIS DOCUMENT RELATES TO
ALL DIRECT PURCHASER ACTIONS:**

Standard Iron Works v. ArcelorMittal, et al.,
Case No. 08-cv-5214

Wilmington Steel Processing Co., Inc. v.
ArcelorMittal, et al., Case No. 08-cv-5371

Capow, Inc. d/b/a Eastern States Steel v.
ArcelorMittal, et al., Case No. 08-cv-5633

Alco Industries, Inc. v. ArcelorMittal, et al.,
Case No. 08-cv-6197

Gulf Stream Builders Supply, Inc. v.
ArcelorMital, et al., Case No. 10-cv-4236

**PLAINTIFFS' PROPOSED FINDINGS OF FACT
AND CONCLUSIONS OF LAW**

REDACTED VERSION FOR PUBLIC FILING

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INTRODUCTION

1. Plaintiffs, a group of direct purchasers of carbon steel products, allege a conspiracy among Defendants to manipulate the supply and price of steel sold in the United States between April 2005 and December 2007, in violation of Section 1 of the Sherman Act, 15 U.S.C. § 1. Plaintiffs' central allegation is that Defendants' top executives got together and conspired to restrict the output of their steelmaking furnaces (known as "raw steel" production) to raise the price of finished steel goods purchased by the class. Dkt. No. 1.

2. Defendants are the largest domestic producers of steel products, [REDACTED]
[REDACTED]
[REDACTED]

3. By order and opinion dated June 12, 2009, the Court denied Defendants' motion to dismiss. *Standard Iron Works v. ArcelorMittal*, 639 F. Supp. 2d 877 (N.D. Ill. 2009). Extensive class certification and expert discovery followed.

4. Plaintiffs moved for class certification on May 24, 2012, and the parties have submitted hundreds of pages of briefing and expert reports on the relevant issues.

5. The Court held a three-day evidentiary hearing on March 5-6 and April 11, 2014, at which the parties presented evidence and argument relating to both class certification and Defendants' *Daubert* motions.

6. Based on a rigorous review of the record, the Court finds that Plaintiffs have shown by a preponderance of the evidence that their expert opinions are relevant and reliable for purposes of *Daubert* and class certification, and that the requirements of Rule 23 are met.

BACKGROUND

7. Much of the relevant industry background is summarized in the Court's prior opinion denying Defendants' motion to dismiss. *Standard Iron Works*, 639 F. Supp. 2d 877. *See also* Dkt. No. 390, Ex. 3 ("Wright Report") (steelmaking and class product background); Dkt. No. 307 at 6 (additional background).

8. Since that time, Plaintiffs have amended their allegations to reflect certain facts developed in class certification discovery, including a narrowing of the class product definition, shortening of the proposed class period, and development of factual support for their conspiracy allegations. *See* Dkt. No. 307 at 21 (class definition); *id.* at 7-17 (liability evidence).

9. Plaintiffs allege a single industry cartel aimed at controlling raw steel supply at steelmaking furnaces throughout the United States. According to Plaintiffs, Defendants understood that such a conspiracy was a straightforward way for the industry to raise steel prices and profits across the board. *See* Dkt. No. 307 at 7-17; Dkt. No. 308, Ex. 8, at AM-SA-10006059 (Mittal COO explaining that goal was to "squeeze the cycle a little bit and cut your production . . . Control supply.").

10. Plaintiffs allege that this strategy was a simple application of basic economics: cut furnace supply, the price of finished steel goes up. *See, e.g., Gen'l Leaseways, Inc. v. Nat'l Truck Leasing Assoc.*, 744 F.2d 588, 594 (7th Cir. 1984) (when "firms restrict output directly, price will as mentioned rise"); *In re Linerboard Antitrust Litig.*, 305 F.3d 145, 152 (3d Cir. 2002) (affirming class certification in similar case because a "reduction in supply will cause prices to rise").

11. Plaintiffs rely on several categories of common proof to support their claims for purposes of class certification.

12. First, Plaintiffs have introduced common evidence indicating that Defendants in fact cut their raw steel output in a significant, coordinated, and unprecedented way during the proposed class period. Dkt. No. 307 at 7-17; *see generally Standard Iron Works*, 639 F. Supp. 2d at 884-93 (discussing production cuts at length).

13. Second, Plaintiffs have presented common evidence that can be used to support their allegations that the production cuts stemmed from collusion, not independent action. For example, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] *See, e.g.*, Dkt. No. 307 at 7-17; Dkt. No. 472, Ex. PX-136 at 10-15 (hearing demonstratives); *In re High Fructose Corn Syrup Antitrust Litig.*, 295 F.3d 651, 661-65 (7th Cir. 2002) (discussing similar evidence of cartel behavior and citing industry “discipline” as a common euphemism for collusion); Posner, Richard A., *Antitrust Law*, at 170 (2d ed. 2001) (trade associations have been implicated in a “surprising number” of cartel cases).

14. Plaintiffs cite additional evidence indicating, *inter alia*, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

15. Most significantly for present purposes, all such conspiracy evidence—on the central liability issue in the case—is common to all class members.

16. Third, Plaintiffs have presented extensive documentary evidence showing that Defendants' executives touted the outages as highly successful in terms of raising steel prices and bolstering industry profitability. Dkt. No 307 at 15-17; Dkt. No. 472, PX-136 at 21-37 (hearing demonstratives showing price effects).

17. Fourth, Plaintiffs have shown that [REDACTED]
[REDACTED] Dkt. 307 at 36-37; Dkt. No. 472, PX-137 at 30-31 (hearing demonstrative).

18. Fifth, Plaintiffs have introduced expert analysis and opinion to corroborate their claims, including the opinions of an economist (Dr. John Solow), an industry expert (Dr. Jeryl Wright), and a damages expert (Dr. James McClave). As discussed *infra*, Plaintiffs' experts are well-qualified and the Court finds after careful consideration of Defendants' arguments that Plaintiffs' expert opinions meet the *Daubert* standard for relevance and reliability.

19. In sum, Plaintiffs have made an extensive showing that their common evidence, considered as a whole, can be used to prove their claims on a class-wide basis on the merits.

20. Defendants respond by denying any conspiracy, disputing the evidence, and arguing that the industry's raw steel production cuts, to the extent they occurred, did not cause class-wide price effects. Defendants oppose class certification primarily because of differences in steel chemistry, product specifications and prices, customer characteristics, end-uses, and more. Defendants argue that these factors defeat any possibility of class-wide impact from the alleged raw steel production cuts and thus defeat Plaintiffs' case for class certification. Defendants also challenge Plaintiffs' experts on various issues, as discussed *infra*.

STANDARDS FOR CLASS CERTIFICATION

21. Class certification demands rigorous analysis of the evidence and arguments to ensure that the requirements of Rule 23 are met—and Plaintiffs must “affirmatively demonstrate compliance” with the Rule. *Comcast Corp. v. Behrend*, 133 S.Ct. 1426, 1432 (2013).

22. Plaintiffs’ burden is not, however, to prove their case on the merits at this stage. The class certification inquiry focuses on the nature of the issues and whether the case can be resolved using predominantly common proof, not on whether Plaintiffs actually will prevail. *Amgen Inc. v. Connecticut Ret. Plans & Trust Funds*, 133 S.Ct. 1184, 1194-95 (2013) (“Rule 23 grants courts no license to engage in free-ranging merits inquiries at the certification stage. Merits questions may be considered to the extent—but only to the extent—that they are relevant to determining whether the Rule 23 prerequisites for class certification are satisfied.”); *Messner v. Northshore Univ. HealthSystem*, 669 F.3d 802, 811 (7th Cir. 2012) (same).

23. In conducting this inquiry, “when factual disputes bear on issues vital to certification (that is, to whether the suit should be allowed to be litigated as a class action), such as predominance, the court must receive evidence . . . and resolve the disputes before deciding whether to certify the case,” even if that inquiry overlaps with the merits. *Parko v. Shell Oil Co.*, 739 F.3d 1083, 1085 (7th Cir. 2014) (citations and internal quotation marks omitted).

24. When expert evidence is relevant, “a district court must make a conclusive ruling on any challenge to that expert’s qualifications or submissions before it may rule on a motion for class certification.” *Messner*, 669 F.3d at 812.

RULE 23(a)

25. The Court finds that Plaintiffs have shown, by a preponderance of the evidence, that the threshold requirements of Rule 23(a) are met.

NUMEROSITY

26. The Court finds that numerosity is satisfied. [REDACTED]

[REDACTED] joinder impracticable and satisfies numerosity. *See* Dkt. No. 390, Ex. 2 (“McClave Rebuttal Rep.”) at 7 n.10; *Schmidt v. Smith & Wollensky LLC*, 268 F.R.D. 323, 326 (N.D. Ill. 2010) (“a class of more than 40 members is generally believed to be sufficiently numerous”). *See generally* *Butler v. Sears, Roebuck and Co.*, 727 F.3d 796, 801 (7th Cir. 2013) (“the more claimants there are, the more likely a class action is to yield substantial economies in litigation”) (citation omitted).

27. The proposed class also includes thousands of relatively small purchasers,

[REDACTED] Dkt. No. 472, PX-139 at 20 (McClave hearing demonstrative). Many of these relatively small customers would lack the economic incentive or means to pursue their antitrust claims on an individual basis, which counsels in favor of certification. Dkt. No. 389 at 63; *Butler*, 727 F.3d at 801 (absent class certification, “defendants would be able to escape liability for tortious harms of enormous aggregate magnitude but so widely distributed as not to be remediable in individual suits.”).

COMMONALITY

28. To establish commonality, Plaintiffs must identify an issue of fact or law whose resolution “is central to the validity of each” class member’s claim. *Wal-Mart Stores, Inc. v. Dukes*, 131 S.Ct. 2541, 2551 (2011).

29. The central liability issue here is whether Defendants conspired, a classic common question of fact and law. Antitrust cartel cases turn fundamentally on Defendants’ conduct—what Defendants said and did and whether they conspired to restrict output as

alleged—and common proof will assist all class members on these crucial questions at trial, as Defendants accept. *See* Dkt. No. 307 at 28; Dkt. No. 269 at 11 (Defendants’ brief conceding “it is taken for granted that the existence of a conspiracy would be subject to common proof”).

30. The Court finds that Rule 23(a) commonality is met. *See, e.g., In re High-Tech Employee Antitrust Litig.*, 2013 WL 5770992, *9 (N.D. Cal. Oct. 24, 2013) (“Where an antitrust conspiracy has been alleged, courts have consistently held that the very nature of a conspiracy antitrust action compels a finding that common questions of law and fact exist.”) (citations and internal quotation marks omitted); Dkt. No. 307 at 28 (collecting cases).

TYPICALITY

31. Typicality “is closely related to commonality and should be liberally construed.” *Saltzman v. Pella Corp.*, 257 F.R.D. 471, 479 (N.D. Ill. 2009). Typicality focuses on the nature of the claim and whether “the representative party’s claim arises from the same course of conduct that gives rise to the claims of other class members and all of the claims are based on the same legal theory.” *Id.*; *see also In re Rubber Chemicals Antitrust Litig.*, 232 F.R.D. 346, 351 (N.D. Cal. 2005) (typicality is met where “plaintiffs and all class members alleg[e] the same antitrust violations by defendants”).

32. Defendants dispute typicality because the named Plaintiffs purchased some, but not all, class products; because the named Plaintiffs are small compared to the largest class members such as General Motors; and because Defendants believe the named Plaintiffs are atypical of class members known as service centers. Dkt. No. 358 at 56-63.

33. The law is well established, however, that factual differences such as these will not defeat typicality where, as here, Plaintiffs bring the same antitrust claims based on the same legal and factual theories. *See, e.g., Saltzman*, 257 F.R.D. at 479; *In re Bromine Antitrust Litig.*,

203 F.R.D. 403, 409-10 (S.D. Ind. 2001) (discussing Seventh Circuit authority); *In re Urethane Antitrust Litig.*, 251 F.R.D. 629, 640 (D. Kan. 2008) (“[t]ypicality refers to the nature of the claims of the representative, not the individual characteristics of the plaintiff”); Dkt. No. 389 at 58 (collecting additional cases).

34. “That customers paid different prices or purchased different brands of products does not defeat typicality.” *In re Chocolate Confectionary Antitrust Litig.*, 289 F.R.D. 200, 217 (M.D. Pa. 2012) (collecting cases). Nor does typicality turn on the size of the named plaintiffs relative to larger class members. *See Bromine*, 203 F.R.D. at 409-10; Dkt. No. 389 at 58 (collecting cases). The “representatives’ claims need not be identical to the class members’; rather, it is sufficient if they are substantially similar” and that the claims arise from the “same practice or course of conduct.” *Bromine*, 203 F.R.D. at 409 (quoting *De La Fuente v. Stokely–Van Camp, Inc.*, 713 F.2d 225, 232 (7th Cir.1983)).

35. The Court finds that these standards are met.

36. The named plaintiffs and all proposed class members allege the same antitrust violation seeking the same remedy based on the same theory: that Defendants conspired to restrict raw steel production and raise the prices of steel products during the relevant period. In these circumstances, typicality is met.

37. Defendants also contend that the named plaintiffs are atypical of class members known as “service centers” (steel distributors). According to Defendants, a service center trade association known as “MSCI” is implicated in the conspiracy because Plaintiffs have alleged certain conspiratorial discussions among Defendants at various MSCI events. Defendants argue this creates a conflict because “Plaintiffs clearly cannot represent the very class members they accuse of conspiring with the Defendants.” Dkt. No. 358 at 60.

38. Plaintiffs respond that the MSCI trade association raises no typicality issue because “no class member is an alleged co-conspirator in this case and indeed the trade association itself is not an alleged co-conspirator.” Dkt. No. 389 at 59. Rather, Plaintiffs have alleged only that MSCI events were among the many forums in which *Defendants themselves* got together and made relevant statements. *Id.*

39. Defendants cite no persuasive authority for the proposition that this fact pattern creates a conflict or defeats typicality. The allegation here is that Defendants conspired, not that service centers or any other class members conspired. Defendants’ argument thus presents the type of speculative hypothetical conflict rejected by the Seventh Circuit in a similar case. *Kohen v. Pacific Inv. Mgmt. Co.*, 571 F.3d 672, 680 (7th Cir. 2009).

40. Defendants further suggest that service centers may have benefitted in some way from the production cuts and argue that this creates diverging class interests that defeat typicality. Dkt. No. 358 at 60 n.44. This argument is foreclosed, however, by *Illinois Brick v. Illinois*, 431 U.S. 720 (1977). Under *Illinois Brick*, direct purchaser plaintiffs are entitled to collect 100% of the overcharge imposed by a cartel, even if they were capable of “passing on” or otherwise mitigating the damages from the alleged violation in their downstream operations. *See BCS Servs., Inc. v. Heartwood 88, LLC*, 637 F.3d 750, 756 (7th Cir. 2011) (explaining *Illinois Brick*); *see also Hanover Shoe, Inc. v. United Shoe Machinery Corp.*, 392 U.S. 481 (1968).

41. Based on this rule, it is immaterial whether certain service centers may have benefitted from the alleged cartel in their downstream operations because *all* direct purchaser class members are entitled to full recovery for the overcharge on their transactions with Defendants, which means class interests are squarely aligned in terms of maximizing recovery in this case. *See, e.g., Urethane*, 251 F.R.D. at 641-42.

42. The Court finds no evidence of any issue or conflict that defeats typicality. Instead, because all direct purchaser claims arise from the same events or course of conduct and are based on the same legal theory, typicality is met. *Saltzman*, 257 F.R.D. at 479.

ADEQUACY

43. Adequacy of representation is a two-pronged inquiry under Rule 23(a)(4): (i) the named plaintiffs must not have claims in conflict with other class members and (ii) the named plaintiffs and proposed class counsel must demonstrate their ability to litigate the case vigorously and competently on behalf of named and absent class members alike. *See, e.g., Kohen*, 571 F.3d at 679 (conflict analysis); *Bromine*, 203 F.R.D. at 410-12; *Urethane*, 251 F.R.D. at 644.

44. These standards are met. The named Plaintiffs have no conflicts. Their interests are aligned with those of all class members because all direct purchasers share a strong interest in establishing Defendants' liability and maximizing the class-wide recovery of damages. *See, e.g., Bromine*, 203 F.R.D. at 410-12; *In re Ready-Mixed Concrete Antitrust Litig.*, 261 F.R.D. 154, 167-68 (S.D. Ind. 2009); *Urethane*, 251 F.R.D. at 644; *Chocolate*, 289 F.R.D. at 218.

45. Second, Plaintiffs have demonstrated throughout this case their ability to litigate the matter vigorously on behalf of themselves and absent class members alike. The Court thus finds that the named Plaintiffs and proposed class counsel are adequate representatives.

46. Defendants respond by suggesting that one of the five proposed class representatives, Wilmington Steel, is nevertheless inadequate. Defendants argue that Wilmington Steel is not a proper class representative because Defendants believe it sold its claims in certain asset transactions in 2006 and 2008. Dkt. No. 358 at 61.

47. The Court finds that Wilmington Steel is an adequate class representative. Case law holds that the transfer of an antitrust claim requires an express contractual provision, and the

relevant Wilmington Steel transaction documents are specific in listing the assets being transferred but do not identify antitrust claims. *See* Dkt. No. 389 at 61; *Franco v. Conn. Gen. Life Ins. Co.*, 818 F. Supp. 2d 792, 812 (D.N.J. 2011); *Gulfstream III Associates, Inc. v. Gulfstream Aerospace Corp.*, 995 F.2d 425, 440 (3d Cir. 1993) (“any assignment of antitrust claims, as a matter of federal common law, must be an express assignment”); *Sullivan v. Nat’l Football League*, 34 F.3d 1091, 1106 (1st Cir. 1994) (same).

ASCERTAINABILITY

48. Defendants have challenged the class definition under Rule 23(a)’s implied requirement of ascertainability, under which “the description of the class must be sufficiently definite so that it is administratively feasible for the court to ascertain whether a particular individual is a member.” *Saltzman*, 257 F.R.D. at 475-76.

49. Defendants focus on the aspects of the class definition involving fixed price contracts negotiated before the class period. *See* Dkt. No. 307 at 21-22 (class definition); Dkt. No. 358 at 64-66. That is, Defendants challenge the provisions under which Plaintiffs have defined out of the class any fixed price contract transactions entered before the class period, while including in the class any contract transactions for which delivery was received *and* price was adjusted (or indexed) based on market prices that prevailed during the class period.

50. The Court finds that the Class is ascertainable.

51. There is no dispute that Defendants’ sales data identifies by name all or nearly all direct purchaser customers who purchased Steel Products during the relevant period, see McClave Rebuttal Rep. at 7 n.10, and that the class definition further identifies the relevant class products and time period with specificity. As such, issues of class notice and administration will be relatively straightforward: class members can be notified directly by mail (perhaps

supplemented by publication notice) and advised of their rights relating to particular steel products purchased at prices determined during the class period.

52. For the relatively small subset of class period transactions excluded because the price was fixed by pre-conspiracy contract, the class definition includes a clear and objective test: namely, a purchaser must have taken delivery of steel during the class period for a price that was determined (at least in part) *during the class period*.

53. As Plaintiffs have explained, merits discovery can be used to identify pre-conspiracy fixed price contracts and the associated class period transactions. Dkt. No. 389 at 62. Indeed, Defendants themselves have had little difficulty identifying and producing such pre-class period contracts in order to advance other arguments in opposition to class certification. *See* Dkt. No. 420 at 8-9 (identifying such contracts in Defendants' *Daubert* reply briefing).

54. In addition, in a claims administration stage, class members can be asked to conduct a records search to identify class period transactions for covered class products at prices determined during the class period. *See, e.g., Saltzman*, 257 F.R.D. at 476 ("notice to class members can include information necessary to conduct a self-inspection").

55. In these circumstances, the class definition is ascertainable and provides sufficient information to administer the case. *See Saltzman*, 257 F.R.D. at 476; *In re OSB Antitrust Litig.*, 2007 WL 2253418, at *9 (E.D. Pa. Aug. 3 2007) ("Because the proposed class need only be ascertainable by some objective criteria, not actually ascertained, challenges to individual claims based on class membership may be resolved at the claims phase").

56. Defendants suggestion that class certification should be denied in its entirety based on arguments concerning these relatively minor issues with the class definition also runs counter to precedent, under which class definitions can be tailored as the case proceeds to

address the facts as developed in discovery.” *See, e.g., Messner*, 669 F.3d at 825 (class definition issues “can and often should be solved by refining the class definition rather than by flatly denying class certification on that basis”); Fed. R. Civ. P. 23(c)(1)(C) (permitting alteration of class certification at any time prior to final judgment).

RULE 23(b)(3)

PREDOMINANCE STANDARD

57. The crux of the parties’ dispute at this stage is Rule 23(b)(3) predominance: whether “the court finds that the questions of law or fact common to class members predominate over any questions affecting only individual members.” Fed. R. Civ. P. 23(b)(3).

58. Predominance focuses on whether the claim “is capable of proof at trial through evidence that is common,” and “the ability to use such common evidence and common methodology . . . is sufficient to support a finding of predominance.” *Messner*, 669 F.3d at 818-19 (citation and internal quotation marks omitted); *see also Amgen*, 133 S.Ct. at 1191 (“Rule 23(b)(3) requires a showing that *questions* common to the class predominate, not that those questions will be answered, on the merits, in favor of the class.”) (emphasis in original).

59. Applying these standards, “Rule 23(b)(3)’s predominance requirement is satisfied when common questions represent a significant aspect of a case and can be resolved for all members of a class in a single adjudication.” *Messner*, 669 F.3d at 815 (quoting Wright & Miller, *Federal Practice and Procedure* § 1778). “Or, to put it another way, common questions can predominate if a common nucleus of operative facts and issues underlies the claims brought by the proposed class.” *Id.*; *see also Butler*, 727 F.3d at 801 (7th Cir. 2013) (predominance generally met where “central” issue is common); *Saltzman*, 257 F.R.D. at 484 (same).

60. “Predominance is a test readily met in certain cases alleging . . . violations of the antitrust laws.” *Amchem Products Inc. v. Windsor*, 521 U.S. 591, 625 (1997); *see also Messner*, 669 F.3d at 815 (“in antitrust cases, Rule 23, when applied rigorously, will frequently lead to certification”) (citation omitted); Dkt. No. 307 at 18-19 (collecting cases).

61. The Court’s analysis of these issues “begins, of course, with the elements of the underlying cause of action.” *Messner*, 669 F.3d at 815 (quoting *Erica P. John Fund, Inc. v. Halliburton Co.*, 131 S.Ct. 2179, 2184 (2011)). Plaintiffs’ claims here are brought under Section 1 of the Sherman Act and Section 4 of the Clayton Act, which require proof (1) that Defendants conspired in violation of the antitrust laws, (2) “that the antitrust violation caused them some injury,” and (3) a reasonable estimate of damages. *Id.*

COMMON PROOF OF CONSPIRACY

62. Plaintiffs argue that legal and factual issues relating to the conspiracy are both common and central to the case, and thus “carry much of Plaintiffs’ burden in the Court’s predominance inquiry.” Dkt. No. 389 at 5. Defendants concede that the conspiracy issues are common, *see* Dkt. No. 269 at 11, but disagree that this element is enough to satisfy predominance standing alone. *See* Dkt. No. 358 at 21-22.

63. The question, however, is not whether the common conspiracy issues establish predominance standing alone. Predominance does not turn on any one element of the case in isolation. *Amgen*, 133 S.Ct. at 1196. The question is whether common issues predominate for the claim as a whole. *Id.* *See also Messner*, 669 F.3d at 814 (“There is no mathematical or mechanical test for evaluating predominance.”); *Parko*, 739 F.3d at 1085 (same).

64. The focus, as the Court of Appeals has explained, is whether a “common nucleus of operative facts and issues underlies the claims,” *Messner*, 669 F.3d at 815, such that class

certification will “greatly simplify the litigation” and facilitate a fair and efficient resolution.

Parko, 739 F.3d at 1085. *See also Butler*, 727 F.3d at 801 (“An issue ‘central to the validity of each one of the claims’ in a class action, if it can be resolved ‘in one stroke,’ can justify class treatment.”) (quoting *Wal-Mart*, 131 S.Ct. at 2551).

65. The conspiracy issues are central and common in cartel litigation. Common legal and factual issues relating to Defendants’ conduct go to the heart of Defendants’ liability in this matter, and they can be resolved most fairly and efficiently on a class-wide basis. *See* Dkt. 307 at 18-19 and 27-28 (collecting cases); Dkt. No. 389 at 5-6; Wright & Miller, 7AA *Federal Practice and Procedure* § 1781 (antitrust conspiracy “is a common question that is thought to predominate over other issues in the case”).

66. Common issues relating to the conspiracy counsel strongly in favor of a finding of predominance. But it remains necessary for the Court to consider the other elements of Plaintiffs’ claim—causation and damages—to analyze whether common questions predominate for the case as a whole. *Amgen*, 133 S.Ct. at 1196.

COMMON PROOF OF CAUSATION/IMPACT

Background

67. The parties have made extensive submissions on the element of causation, also known as antitrust impact, which requires Plaintiffs to demonstrate “that the antitrust violation caused them some injury.” *Messner*, 669 F.3d at 815; *see also Urethane*, 251 F.R.D. at 634 (impact “can be likened to the causation element in a negligence cause of action [and] means simply that the antitrust violation caused injury to the antitrust plaintiff”) (citation omitted).

68. As in tort cases generally, antitrust plaintiffs are entitled to establish causation based on reasonable inferences “from the proof of defendants’ wrongful acts and their tendency

to injure plaintiffs' business." *J. Truett Payne Co. v. Chrysler Motors Corp.*, 451 U.S. 557, 565 (1981); *see also Perkins v. Standard Oil Co. of Cal.*, 395 U.S. 642, 648 (1969) ("If there is sufficient evidence in the record to support an inference of causation, the ultimate conclusion as to what that evidence proves is for the jury."); *BCS Services*, 637 F.3d at 758-59 (explaining general principles of tort causation and that inferential "probabilistic" proof will suffice).

69. An inference of class-wide impact is "particularly strong" in cartel cases where, as here, the claim involves an alleged top-down conspiracy among senior executives with the power and intent to manipulate prices throughout the relevant industry. *In re Publication Paper Antitrust Litig.*, 690 F.3d 51, 66-69 (2d Cir. 2012).

Plaintiffs' Burden

70. At the class certification stage, antitrust plaintiffs must come forward with common proof to support a reasonable inference of class-wide impact, which in turn supports a finding of predominance. *Messner*, 669 F.3d at 816.

71. Contrary to Defendants' argument, however, Plaintiffs *do not* bear the burden of demonstrating at this stage that each and every individual class member was harmed. *See* 4/11/14 Hearing Tr. at 286 (Defendants' argument).

72. As the Court of Appeals has emphasized, a properly certified "class will often include persons who have not been injured by the defendants' conduct." *Kohen*, 571 F.3d at 677 (rejecting the position suggested by Defendants because it "would vitiate the economics of class action procedure"); *Messner*, 669 F.3d at 825-26 (where common antitrust liability issues predominate, a class is properly certified unless it includes "a great many" uninjured class members); *Parko*, 739 F.3d at 1085 ("How many (if any) of the class members [actually were injured] is the issue to be determined *after* the class is certified.") (emphasis in original).

Summary of Evidence

73. Plaintiffs have introduced six categories of proposed common proof on the element of causation: (1) contemporaneous statements and documents in which Defendants attributed higher steel prices and profits to the industry's production cuts; (2) testimony from Plaintiffs' expert economist, Dr. John Solow, on the economics of the alleged conspiracy; (3) prior sworn testimony from Defendants and their expert (Dr. Hausman) that supports Plaintiffs' position on industry economics and causation; (4) testimony from Plaintiffs' industry expert, Dr. Jeryl Wright, to the effect that Plaintiffs' theory of class-wide impact is consistent with fundamental steel industry reality; (5) industry price data showing increases across all major products and Defendants after the production cuts at issue; and (6) testimony from Plaintiffs' damages expert, Dr. James McClave, who performed a multiple regression analysis to estimate overcharges from the alleged cartel. Dkt. No. 307 at 29-38; Dkt. No. 389 at 6-57.

74. The Court's task, at this stage, is to scrutinize the evidence and arguments in a rigorous way to determine whether Plaintiffs have the "ability to use such common evidence and common methodology" to prove their claims on the merits. *Messner*, 669 F.3d at 819.

Defendants' Documents

75. Plaintiffs' first category of common proof of causation/impact is Defendants' own contemporaneous documents. Plaintiffs have marshaled substantial evidence indicating that Defendants' executives intended for their raw steel curtailments to impact steel prices and profits on an industry-wide basis, and believed they were successful in doing so. *See, e.g.*, Dkt. No. 307 at 10-17 and 30-31; Dkt. No. 472, PX-136 at 21-37 (hearing demonstratives).

76. For example, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

77. As the furnace outages were followed by price increases throughout the industry in the second half of 2005, ArcelorMittal executives emphasized that [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

78. Plaintiffs cite many similar documents throughout the relevant period, including statements made in connection with the industry's second major production cut in late-2006. *See* Dkt. No. 307 at 10-17 and 30-31; Dkt. No. 472, PX-136 at 21-37 (hearing demonstratives); *id.*

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

79. Defendants respond that the documents, which Defendants characterize as "macro level statements" from their executives, do not speak to the question of whether particular class

members were impacted. Dkt. No. 358 at 54-55. Defendants argue that such evidence is irrelevant to the question of causation and cannot be used to satisfy predominance. *Id.*

80. Having reviewed the documents in context with the record as a whole, the Court finds that the documents are relevant common evidence that can be used to support Plaintiffs' claim on the merits, and support a finding of predominance.

81. The disputed issue here is causation—whether Defendants' raw steel production cuts impacted the price of finished steel—and the documents go directly to that question. Not only did Defendants' executives discuss their intentions to cut furnace production to raise steel prices throughout the industry (demonstrating the economic plausibility of Plaintiffs' claim), but the record shows that they curtailed furnaces as alleged and discussed the success of these efforts after the fact. Defendants' statements are consistent with Plaintiffs' proof as a whole, and can be used to show that raw steel outages in fact caused higher prices for finished steel; that the effects were widespread across products, producers, large and small customers, and over time; and, accordingly, that individual class members were impacted. At an earlier stage in discovery, this Court noted that Defendants' statements constitute evidence of impact. Dkt. No. 279 at 2 ("I agree with Plaintiffs that the high-level executive documents sought do *not* go solely to the issue of conspiracy, but also shed light on impact.") (emphasis in original).

82. The court addressed and credited similar evidence in the recent *High-Tech Employee* antitrust litigation, where "Plaintiffs submitted thousands of pages of documents—all common evidence—which support Plaintiffs' theories of classwide harm and undermine many of the representations previously made by Defendants." *High-Tech Employee*, 2013 WL 5770992, at *19 (certifying the class); *see also Urethane*, 251 F.R.D. at 638-39 (certifying class and

crediting “documents from the defendants” showing that defendants viewed the allegedly collusive behavior as successful).

83. Defendants cite no persuasive authority to the contrary. Indeed, one of the cases cited by Defendants on this topic, *Allen v. Dairy Farmers of Am. Inc.*, 279 F.R.D. 257, 265 (D. Vt. 2011), was superseded by a subsequent order granting class certification in the same litigation, relying, in part, on statements from the defendants’ executives relating to impact. *See Allen*, No. 09-cv-230, 2012 WL 5844871, at *12 (D.Vt. 2012).

84. As in *High-Tech Employee*, Plaintiffs’ documentary showing “suggests that, for the purpose of ultimately proving impact, common issues will predominate over individual ones.” 2013 WL 5770992, at *19.

Solow Opinions

85. Plaintiffs have introduced the expert opinions of Dr. John Solow, an economist and chairman of the economics department at the University of Iowa. Dr. Solow is co-author of several volumes of the leading antitrust treatise (Areeda, Hovenkamp & Solow, *Antitrust Law*), and Defendants do not challenge his qualifications. Dr. Solow offers the opinion that common economic evidence can be used to assist Plaintiffs in proving the elements of conspiracy and class-wide impact. *See Solow Rep.*; Dkt. No. 390, Ex. 1 (“Solow Rebuttal Rep.”); Dkt. No. 404 (Plaintiffs’ *Daubert* opposition); Dkt. No. 389 at 13-42.

86. To evaluate these issues, Dr. Solow used a standard methodology known as structure-conduct-performance (“SCP”) analysis, which is a well-accepted framework for cartel economics. *Solow Rebuttal Rep.* at 4; 4/11/2014 Hearing Tr. at 48 (Dr. Hausman agreeing that SCP is a standard framework). *See, e.g., Chocolate*, 289 F.R.D. at 209-10; *In re Urethane Antitrust Litig.*, 2012 WL 6681783, at *2 (D. Kan. Dec. 21, 2012).

Daubert Standard

87. To be admissible under Rule 702, a qualified expert must offer relevant and reliable opinions. *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 149-50 (1999). Several non-exclusive and discretionary factors may bear on this inquiry, including testability, peer review, error rates, and scientific acceptance. *Daubert v. Merrell Dow Pharmaceutical, Inc.*, 509 U.S. 579, 592-94 (1993); *Kumho Tire*, 526 U.S. at 141 (“a trial court *may* consider one or more of the specific factors that *Daubert* mentioned when doing so will help determine the testimony’s reliability” but “the test of reliability is ‘flexible’ and *Daubert*’s list of specific factors neither necessarily nor exclusively applies to all experts in every case.”) (emphasis in original); *see also Am. Honda Motor Co. v. Allen*, 600 F.3d 813, 817 (7th Cir. 2010) (additional factors).

88. The Court’s focus in conducting this inquiry is not whether the expert’s methodology is perfect, but whether it is reasonable and supported by foundation. *Fructose*, 295 F.3d at 660-61; *see also Daubert*, 509 U.S. at 597 (relevant testimony is admissible if supported by “reliable foundation”); *Kumho Tire*, 526 U.S. at 153 (Rule 702 is concerned with junk science falling outside “the range where experts might reasonably differ”); *Messner*, 669 F.3d at 808 (“it is important not to let a quest for perfect evidence become the enemy of good evidence”).

Structural Characteristics of the Steel Industry

89. The starting point for Dr. Solow’s analysis was the economic structure of the industry, including background investigation of Defendants’ operations. Solow Rep. at 3-6.

90. Dr. Solow first identified a number of structural features long recognized as facilitating effective collusion, including industry concentration, barriers to entry, lack of close substitutes, product standardization, and trade associations. Solow Rep. at 6-14; *see, e.g., Fructose*, 295 F.3d at 656-57 (similar analysis of industry structure in which collusion “might

actually have an effect on price”); *Linerboard*, 305 F.3d at 153-55 (similar analysis supports class certification); *In re EPDM Antitrust Litig.*, 256 F.R.D. 82, 95 (D. Conn. 2009) (same).

91. Dr. Solow cites extensive foundation for these opinions, and, with the exception of product standardization, Defendants do not focus their attention on disputing them. Solow Rep. at 6-14; Dkt. No. 472, PX-137 at 5-23 (Solow hearing demonstratives); Hausman Rep. at 38 n.85 and *passim* (Dr. Hausman conceding domestic steel industry is a concentrated oligopoly and not focusing attention on barriers to entry and lack of close substitutes).

92. Dr. Solow’s opinion on product standardization is not that all finished steel is the same, but that Defendants compete principally on the basis of price in the sale of the various finished steel goods, an economic factor that motivates and facilitates collusion. Solow Rep. at 9-10; 3/5/14 Hearing Tr. at 93-94. Dr. Solow has cited Defendants’ documents in support of his opinion. *See, e.g.*, Solow Rep. at 10 [REDACTED]
[REDACTED]

93. Dr. Solow’s position finds additional support in prior testimony from Defendants’ expert (Dr. Hausman) in a different case, in which Dr. Hausman explained that “[p]erhaps the easiest way to think about this is a certain grade of steel has to meet ASTM standards, and it is all going to be the same, and that is a perfect substitute. It is nondifferentiated. Products like that compete only on price. If I am going to buy steel, as long as I am going to get it delivered, I will buy the cheapest steel that meets these standards.” Dkt. No. 414, Ex. 26 at 16.

94. Based on the record, the Court finds that Dr. Solow’s opinions on the industry’s structural features—concentration, barriers to entry, lack of close substitutes, product standardization, and trade associations—are relevant and reliable.

95. Because these factors indicate that a raw steel supply cartel likely would have been successful in causing class-wide price effects, Dr. Solow's structural opinions are relevant to the elements of conspiracy and impact and support a finding of predominance. *See, e.g., Fructose*, 295 F.3d at 656-57; *Linerboard*, 305 F.3d at 153-55; *EPDM*, 256 F.R.D. 82, 95; Dkt. No. 307 at 32-33 (collecting cases).

Relevant Market Definition

96. Defendants make a broader criticism of Dr. Solow's structural analysis, based on the issue of "relevant market definition." Defendants argue that the first step of any economic structure-conduct-performance analysis is to define the "relevant antitrust market" from the demand-side (end-user) perspective, as might be done in a merger or monopolization case. *See* Dkt. No. 361 at 8-11 (Defendants' *Daubert* brief); Hausman Rep. at 29.

97. Dr. Solow and Plaintiffs respond that Defendants misapprehend the proper economic analysis in a cartel case such as this one. Dr. Solow states that formal market definition "is typically a less significant issue in collusion cases" as compared to monopolization and merger cases because the relevant question in a cartel case is the economic "plausibility of the conspiracy alleged and the likely scope of its impact (which often spans multiple relevant products as defined from the end-user perspective). Put differently, there is no rule of economics that collusion is impossible or even implausible in cases involving differentiated finished goods. The history of cartels refutes any such claim, with some of the world's most infamous cartels having involved schemes to manipulate an array of finished goods." Solow Rebuttal Rep. at 5-6.

98. Dr. Solow also argues that Defendants' approach to market definition is flawed as a matter of economics, because markets are properly defined from *either* the supply side (Dr. Solow's approach) or the demand side (Professor Hausman's approach). *Id.* "Economic theory

has long recognized that it is not necessary for products to be substitutable by consumers to be considered in the same relevant antitrust market. Where, as here, products are supply-side substitutes they should be included in the same market. The importance of supply-side substitution in defining relevant antitrust markets is well understood in economics.” *Id.* at 5.

99. These principles explain Dr. Solow’s focus on the supply side characteristics of the industry and are consistent, moreover, with Professor Hausman’s own prior testimony in a different case, in which he “emphasize[d] supply side substitution, not demand side substitution” in his economic analysis of the steel industry. Dkt. No. 392, Ex. 17, at 414.

100. Dr. Solow found “abundant evidence” in this case, “both from industry sources and Professor Hausman himself, that there is significant supply-side substitution in the flat and long steel product industries, which obviates the need for the product-by-product analysis of demand substitution that Professor Hausman” says is required. Solow Rebuttal Rep. at 8.

101. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] *See generally* Areeda, Hovenkamp & Solow, *Antitrust Law* ¶¶ 560-61 (3rd ed. 2007) (“although not close substitutes for each other on the demand side, two products produced interchangeably from the same production facilities are presumptively in the same market”).

102. [REDACTED]

[REDACTED]

[REDACTED]

103. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

104. For this reason, Dr. Solow opines that steel products covered by the class definition are in the same economic market and their prices are linked on the supply side. Solow Rebuttal Rep. at 5-12.

105. Dr. Solow also explains that he properly addressed the demand side of the industry, having studied the question of demand-side substitution. Solow Rep. at 11. *See, e.g., Fructose*, 295 F.3d at 657 (similar analysis of demand); *Linerboard*, 305 F.3d at 153-55 (approving similar analysis at class certification stage).

106. Dr. Solow further responds to Defendants' "relevant market" criticism by emphasizing that market definition analysis, at bottom, is simply a "means to an end, a way to evaluate market power, which is the ability of a firm or cartel to raise the price, restrict the sales, and/or lower the quality of a product without losing so many of its customers as to make that conduct unprofitable." Solow Rebuttal Rep. at 5. Dr. Solow notes that here the Defendants' executives recognized their market power. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Dr. Solow's Market Analysis Is Consistent with Relevant Law

107. Antitrust law is well-established that formal relevant market definition is not required in a *per se* collusion case. *See Agnew v. Nat'l Collegiate Athletic Ass'n*, 683 F.3d 328, 345 (7th Cir. 2012) (“naked price and output controls can obviate the need for a detailed market analysis in a Sherman Act case”); *In re Ins. Brokerage Antitrust Litig.*, 618 F.3d 300, 316 (3d Cir. 2010) (“Under the *per se* standard, plaintiffs are relieved of the obligation to define a market and prove market power.”); *In re Vitamins Antitrust Litig.*, 2000 WL 1475705, at *9 (D.D.C. May 9, 2000) (“Alleging a *per se* violation of Section 1 of the Sherman Act obviates the need to define a relevant market.”).

108. At most, cartel plaintiffs are required to describe the “rough contours” of the market at issue, *Agnew*, 683 F.3d at 345, and Dr. Solow has done that. *See, e.g.*, Solow Rep. at 3 (“market” at issue is that for “raw or crude steel, which is the primary input in the production of a variety of steel products”); Solow Rebuttal Rep. at 5-8 (steel market is properly defined from the supply side, based on supply side substitutability).

109. Dr. Solow’s methodology is well-accepted in the context of antitrust class certification, and it also comports with Seventh Circuit authority on the economic analysis of cartels. *See* Dkt. No. 404 at 11 and 15-16 (collecting many cases accepting similar analyses and rejecting similar “relevant market” arguments from defendants); *Fructose*, 295 F.3d at 656-57 (similar analysis of industry structure applying similar methodology).

110. Moreover, it is proper as a matter of both law and economics to focus on the supply side linkages in a particular industry, as Dr. Solow has explained, as opposed to the demand-side “relevant market” analysis proposed by Defendants. *See Blue Cross & Blue Shield United of Wisc. v. Marshfield Clinic*, 65 F.3d 1406, 1410-11 (7th Cir. 1995) (“the definition of a

market depends on substitutability on the supply side as well as on the demand side. Even if two products are completely different from the customer's standpoint, if they are made by the same producers, an increase in the price of one that is not cost-justified will induce producers to shift production from the other product to this one in order to increase their profits by selling at a supra competitive price"); Areeda, Hovenkamp & Solow, *Antitrust Law* ¶¶ 560-61 (3rd ed. 2007).

111. The Court finds that Dr. Solow's supply-side opinion is relevant, reliable, and supported by foundation, including the industry documents and analysis cited in Dr. Solow's reports, the submissions of Plaintiffs' industry expert (Dr. Wright), the submissions of Defendants' industry expert (Dr. Thomas), evidence presented at the class certification hearing, and testimony from Defendants (and Professor Hausman) before the International Trade Commission ("ITC"). See [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Dkt. No. 389 at 21-23 (Defendants' testimony before the ITC emphasizing widespread supply substitution).

Economics of Supply Restriction

112. Building on his investigation of industry structure, Dr. Solow explained the economics of supply restriction starting with an accepted economic rule: cutting supply, all else equal, raises price. Solow Rep. at 14; Dkt. No. 307 at 29 (Defendants concede this point); 4/11/14 Hearing Tr. at 127 (Professor Hausman agrees); *Gen'l Leaseways*, 744 F.2d at 594-95.

113. Dr. Solow then opined that the alleged raw steel cartel would have caused class-wide price effects because, just as Defendants executives intended and believed, textbook

economics establishes that a furnace level supply cartel would impact prices throughout the steel industry “under the basic laws of supply and demand.” Solow Rep. at 10; *see also id.* at 15; Solow Rebuttal Rep. at 5-12; 3/5/14 Hearing Tr. at 95-103.

114. Analogizing to the OPEC cartel—which influences prices for an array of petroleum based goods by restricting crude oil supply—Dr. Solow explained that “a restriction on the supply of raw steel supplied to the U.S. market by a hypothetical monopolist (or equally, an industry supply cartel) in the steel industry would be expected to lead to higher prices for the various finished steel products derived from that primary input. Indeed, a cartel that restricted the supply of raw steel is perhaps the most plausible and straightforward type of cartel one might see in the steel industry, given the simplicity of the agreement that would be required and the likelihood of raising prices and margins for the industry as a whole.” Solow Rep. at 15.

115. Dr. Solow elaborated on this opinion in his reports and testimony by explaining the rule of supply-side substitution, under which the prices of steel products made in common (or substitutable) furnace facilities are connected, such that a cartel reducing raw steel production would impact the price of all products made in curtailed furnaces *and* the prices of their supply-side substitutes. Dkt. No. 404 (*Daubert* brief) at 20-27; Solow Rebuttal Rep. at 5-12; 3/5/14 Hearing Tr. at 95-103.

116. According to Dr. Solow, this means prices for all steel products covered by the class definition are linked, and common economic proof can be used to explain the class-wide impact of the alleged supply cartel. *Id.*

117. Defendants criticize these opinions on several grounds. They argue that Dr. Solow misapprehends the industry, failed to support his opinions with empirical analysis or the

work described in his treatise, and changed his opinions on supply economics as the case progressed. Dkt. No. 361 (Defendants' *Daubert* brief) Dkt. No. 426 (Defendants' reply brief).

118. Defendants contend that steel prices vary widely because finished steel is largely custom made, no defendant or mill makes all products, most mills focus on a relatively small number of products, some mills and Defendants increased production for certain products, and that Dr. Solow simply does not understand how the steel business works. Dkt. No. 361 at 22-26.

119. Dr. Solow answers that common price effects from furnace outages are not defeated by such differences in finished product specifications, end-product demand, the fact that not all firms produce all products, or product-specific production trends. The whole point of restricting raw steel output, according to Dr. Solow, was that it allowed Defendants to raise prices for *all* finished products, "despite their different chemical properties," specifications, and demand profiles. According to Dr. Solow, the "economics of supply are what make this possible." Solow Rebuttal Rep. at 10-11.

120. Dr. Solow explained this opinion at both a theoretical and practical level. As a theoretical matter:

In an industry with more than two supply side substitutes, it is not necessary that all firms produce or have the capability to produce all the products. For example, if Firm A can shift productive assets between products 1 and 2 but does not produce 3, and Firm B can shift productive assets between products 2 and 3 but does not produce product 1, all three product prices will still be linked through [supply side substitution].... An increase in the price of product 1, all else equal, will lead Firm A to switch some of its productive assets to producing that product, thereby reducing the supply of product 2 and raising its price. That price increase will in turn cause Firm B to switch some of its productive assets to product 2, reducing the supply of product 3 and causing its price to rise as well. In order for a product's price to be unaffected by supply side substitution, that product would have to be produced by a single producer whose productive assets could not be used to produce any other product.

Solow Rebuttal Rep. at 11.

121. As noted in connection with Defendants’ “relevant market” criticism, Dr. Solow supported these opinions as applied to the steel industry by emphasizing that the parties’ experts

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

122. Dr. Solow also supports these opinions by summarizing the industry’s furnace outages during the class period, identifying the major class products made in curtailed furnaces, and studying the price effects over time. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

123. In response to Defendants’ argument [REDACTED]

[REDACTED] Dr. Solow explained that this argument misapprehends the economics of supply substitution, under which furnace outages affect prices of *all* products made in those furnaces even if output trends remained relatively stable (or even went up) in absolute terms for certain mills or finished goods. Solow Rebuttal Rep. at 11-12, 18 (“the proper comparison is not whether the sale of each and every steel product decreased over time during the cartel period, but whether overall steel production was lower than it otherwise would have been had the coordinated reductions in furnace output

not taken place”). *See also* Dkt. No. 389 at 38-42; *see generally In re Linerboard Antitrust Litig.*, 504 F. Supp. 2d 38, 62 (E.D. Pa. 2007) (“The fact that [the defendant’s] overall productivity was increasing at this time does not bear on whether or not the company conspired to take downtime. Taking downtime on the Number Six machine would have nevertheless contributed to a reduction in industry-wide inventory overhang.”). *See also* ¶ 118, *supra* (example showing price linkage notwithstanding production variation).

124. In addition to disputing the relevance of Defendants’ limited production data, Plaintiffs challenge the data itself, noting that Professor Hausman [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

125. According to Plaintiffs, Defendants’ decision to refrain from presenting all of their own furnace production data casts doubt on the importance of their assertion that there were no production cuts for a few products. *Id.*

ITC Testimony

126. Dr. Solow’s opinions on industry supply economics are further corroborated by Defendants’ testimony before the ITC. As Plaintiffs have emphasized, several Defendants appeared before the ITC in 2001 and 2002 seeking industry-wide trade relief. At the time, Defendants’ position was that widespread relief was appropriate because all “flat” and “long” steel products, respectively, comprised single, inter-related economic markets, owing to the industry’s common furnace stage of production. *See* Dkt. No. 389 at 21. Professor Hausman was their expert on these issues.

127. The ITC matter involved an almost identical array of steel products as those covered by the class definition here, and Professor Hausman's opinion before the ITC was that all "flat" and "long" steel prices, respectively, were linked on the supply side. He testified, for example, that the "production and pricing of the various flat steel products is interrelated due to supply-side substitution possibilities"; the "prices of all carbon and alloy flat steel products are linked by substitution in supply"; and these supply effects are "what makes this a flat-rolled sector single industry, at least from an economic point of view." Dkt No. 389 at 21-22; Dkt. No. 392, Ex. 15, Hausman Tech. Rep. at 5 ("a vertically integrated producer of carbon and alloy flat steel products (whether an EAF or BOF mill) can switch its production assets from making one flat steel product to another").

128. With respect to long products, Professor Hausman was unavailable to testify live before the ITC, but his colleague on the matter, an economist named Dr. Hartman, testified on his behalf that "[w]hen Professor Hausman approached the long products, he felt that there was linkage among the—among the long products." Dkt. No. 404 at 24.

129. Defendants' executives testified similarly. For example, Steel Dynamics CEO Keith Busse represented that "we view all flat products as being market related" because of supply substitution. Dkt. No. 389 at 22. Nucor CEO Dan DiMicco emphasized that, for long products, "it is important that you understand that from a producer's viewpoint it makes sense to consider billets, rebar, hot-rolled bar, structural, and rail as essentially one product." *Id.*; *see also id.* (collecting other examples).

130. Defendants respond by claiming Plaintiffs overstate the significance of the ITC testimony and cite it selectively. Defendants further assert that Dr. Solow runs afoul of his own treatise by relying on the ITC record rather than performing empirical analysis of industry

margins, costs, supply elasticity and other factors that, according to Defendants, must be studied to offer opinions on supply substitution. Dkt. No. 426 at 11-12.

131. Dr. Solow answers that Defendants are simply wrong about the *Antitrust Law* treatise, which according to Dr. Solow casts no doubt on using on-the-record testimony from industry executives and their expert concerning the steel products *actually produced in their mills*. 3/5/14 Hearing Tr. at 119. The treatise instead cautions against relying too heavily on speculation from industry participants about possible new entry in the context of hypothetical merger investigations. *Antitrust Law* ¶ 538b. In short, Dr. Solow says Defendants have taken inapposite language out of context to explain away their prior inconsistent testimony before the ITC. 3/5/14 Hearing Tr. at 119 (“I think they basically misunderstand what the treatise is saying and they’re taking it out of context.”).

132. In response to Defendants’ argument that Dr. Solow should have performed empirical analysis of margins, costs, supply elasticity and other data, Dr. Solow explains that in some cases there will be direct evidence of supply substitution, while in others (for example hypothetical merger evaluations) it may be necessary to perform empirical analyses of margins, costs and elasticity to study the possibility of supply substitution from potential new entrants. 3/5/14 Hearing Tr. at 118-19. Dr. Solow’s treatise simply describes analysis that may be useful in these situations, not investigations that *must* be done in every situation. *Id.*; *Antitrust Law* at ¶¶ 530-38, 560-61.

133. Dr. Solow further notes that estimating indirect measures of potential supply substitutability were unnecessary here [REDACTED]

[REDACTED]

[REDACTED]

134. With respect to Defendants’ emphasis on the need for complex “margin” analysis, Plaintiffs also note Professor Hausman’s representation to the ITC that the steel industry is characterized by widespread supply substitution for major flat products (hot rolled, cold rolled and galvanized) even though “[i]n practice I do not expect that the three margins will be exactly equal at all times.” Dkt. No. 392, Ex. 15, Hausman Tech. Report at 8.

135. Having considered the parties’ evidence and arguments on the question of industry economics and supply-side price linkages, the Court finds Dr. Solow’s opinions relevant and reliable. Dr. Solow’s opinion rests on accepted economic theory—that cutting supply raises price, all else equal, and that finished product prices are linked by supply side substitution possibilities—and proper foundation in the context of the steel industry.

136. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

137. As Dr. Solow has explained, these facts are direct proof of widespread supply substitution in the industry. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

138. Defendants may or may not be correct that Dr. Solow could have done more to study (or test statistically) industry supply substitution, and such arguments may be fodder for cross examination at trial. But the standard for admissibility—whether Dr. Solow has offered relevant and reliable opinions supported by foundation—is readily met. Moreover, Dr. Solow’s opinions are consistent with Defendants’ ITC testimony.

139. Finally, Dr. Solow’s opinions must be considered in context. *See Fructose*, 295 F.3d at 655-65. Dr. Solow’s analysis of industry economics is reliable for the reasons outlined above and is corroborated by independent proof, including Defendants’ contemporaneous documents about the impact of production cuts, the price data, the opinions of Plaintiffs’ industry expert (Dr. Wright), and the empirical analysis of Plaintiffs’ damages expert (Dr. McClave)—all of which indicate that Plaintiffs’ furnace curtailments did in fact have class-wide price effects, as Dr. Solow has explained.

Imports

140. Dr. Solow opines that increased steel imports were “not sufficient to prevent the supply restrictions from having their intended effect of maintaining high prices” during the class period, “owing to many significant trade barriers.” Solow Rep. at 9. The barriers noted by Dr. Solow include significant lead times, transportation costs including high ocean freight rates, a relatively weak dollar during the class period, and formal trade barriers such as tariffs and countervailing duties. *Id.*

141. Defendants challenge this opinion with the report of Jennifer Hillman, an attorney and former ITC commissioner. According to Defendants, imports were “a huge competitive factor in particular product markets” and must be examined on an individualized basis because import levels varied by product, by country, and over time. Dkt. No. 358 at 13.

142. Plaintiffs and Dr. Solow reply that the relevant question is whether imports were capable in the aggregate of constraining Defendants' ability to raise steel prices by cutting furnace supply to such an extent that the alleged conspiracy was unlikely to work. *See* Dkt. No. 389 at 34-38 (addressing import issues); Solow Rebuttal Rep. at 13-15 (same). Based on the evidence of meaningful trade barriers and the extensive proof of the alleged cartel's success, Dr. Solow answers this question in the negative. *Id.*

143. Dr. Solow also explains that imports are simply another source of supply, which for reasons explained above can be evaluated on a common economic basis because of supply-side substitution in the steel industry. Solow Rebuttal Rep. at 13-15 ("due to supply-side substitution and common economic factors, imports are a common issue in this case").

144. Plaintiffs recognize that "imports are a factor in the U.S. market due to the domestic industry's structural undercapacity," but emphasize that additional imports faced meaningful economic barriers during the class period such that the alleged supply cartel had "room to operate." Dkt. No. 389 at 35-36.

145. Dr. Solow has explained the foundation for his opinion that additional imports faced significant trade barriers. For example, Gerdau's CEO stated during the class period that "steel doesn't travel all that well, especially with ocean freight rates up. Your primary market in steel tends to be your domestic market." Solow Rep. at 9. [REDACTED]

[REDACTED] *Id.* A weak dollar and formal trade barriers also deterred additional imports. *Id.*

146. The Court finds that Dr. Solow's opinions are relevant and reliable on the question of imports, and credits Dr. Solow's opinion that import economics can be addressed on

a class-wide basis. Just as the Defendants and their expert (Dr. Hausman) addressed import economics in a single proceeding before the ITC, Dr. Solow states that the economics of steel industry supply (including import supply) are amenable to common economic proof based on principles of supply-side substitution and common analysis of the trade barriers discussed in Dr. Solow's reports. Solow Rebuttal Rep. at 13-15; *see also* Dkt. No. 392, Ex. 15, Hausman Tech. Rep. at 5 (because of supply substitution, "imports of a single flat steel product will potentially impact the pricing and profitability of all flat steel products").

147. In addition, Plaintiffs have shown that import data can be evaluated and addressed on a class-wide basis using multiple regression analysis. *See* Dkt. No. 389 at 38 (explaining that class damage estimate actually *increases* in this case when import data is incorporated into the regression models).

148. The Court also credits Dr. Solow's point that imports were unable to restrain Defendants' exercise of market power based on the documentary record. As Dr. Solow notes, Defendants' executives "did not say at any point between April 2005 and December 2007, 'we were unable to prevent prices from falling due to an increase in imports that offset our reduced production.'" Solow Rebuttal Rep. at 13-14. They said just the opposite "on numerous occasions": that production cuts worked just as intended and raised prices across-the-board. *Id.* "In other words, imports did not prevent the production cuts from impacting class members." *Id.*

Dr. Solow's Conduct and Performance Analysis

149. The remainder of Dr. Solow's report relates to common issues of industry "conduct" and "performance."

150. Dr. Solow's conduct analysis focuses on Defendants' behavior and whether it was consistent with the conduct economists associate with collusion as opposed to independent competition. Solow Rep. at 15-17; *see Fructose*, 295 F.3d at 658-62 (similar analysis).

151. His performance analysis focuses on the price effects of the conduct at issue, which Dr. Solow investigated by reviewing contemporaneous statements of market participants, industry price data, the issue of contract customer injury, and Dr. McClave's econometric modeling. Solow Rep. at 17-19.

152. Defendants criticize Dr. Solow for relying on contemporaneous documents and "average" industry price and production data for his opinions. Indeed, Defendants criticize Dr. Solow for engaging in qualitative economic investigation rather than statistical analysis on several issues throughout his reports, including relevant market definition, supply substitution, evaluation of price data, and evaluation of "but for" production levels.

153. Plaintiffs respond that Defendants misapprehend basic principles of economic methodology, as well as Dr. Solow's role in the case. Plaintiffs argue that economics literature is rich with similar qualitative economic investigations and analyses of cartel behavior—economic inquiries that necessarily rely on documents and other indications of what the cartel participants said and did. Dkt. No. 407 at 29-30. Dr. Solow testified that such evidence is a "gold mine" for the cartel economist, allowing him to place industry facts into proper economic context and offer specialized opinions helpful to the factfinder. *See* 3/5/14 Hearing Tr. at 106; *In re Southeastern Milk Antitrust Litig.*, 2010 WL 5102974, at *2 (E.D. Tenn. 2010) (case "would be completely beyond the understanding of the ordinary lay person without the assistance of economists to explain the economic causes and effects of particular actions"); Fed. R. Evid. 702. *See generally Fructose*, 295 F.3d at 656-62 (similar economic framework for analysis).

154. Dr. Solow has explained the relevance of his analysis of price and production data, and further explained that it was Dr. McClave's role to handle the statistics and econometrics. Plaintiffs say Dr. Solow's role was to perform a standard structure-conduct-performance analysis of the industry, while Dr. McClave's role (as the damages expert) was to handle the data. Solow Rep. at 19; Solow Rebuttal Rep. at 19-20; 3/5/14 Hearing Tr. at 110-11. It was unnecessary for Dr. Solow to duplicate that empirical assignment.

155. Finally, Dr. Solow rejects Defendants' suggestion that it was necessary to model the industry's "but for" production levels in addition to modeling "but for" price levels. Solow Rebuttal Rep. at 19. Instead, Dr. Solow emphasizes the direct evidence that production was curtailed collusively during the class period. *Id.*

156. The Court finds that Dr. Solow engaged in accepted and responsible economic analysis of the industry's structure, conduct and performance and that he supported his economic opinions with reliable foundation, namely, industry documents, analysis of industry production data, price trends, and Dr. McClave's regression results.¹

Conclusion—Solow

157. Having rigorously evaluated Dr. Solow's qualifications, process, methodology, and the bases for his opinions—including his direct responses to Defendants' criticisms and cross examination at the hearing—the Court finds Dr. Solow's opinions to be credible, relevant and reliable for purposes of *Daubert* and class certification.

¹ Defendants also assert that Dr. Solow improperly changed his opinions after submitting his initial report in this case. *See* Dkt. No. 404, at 21 (Plaintiffs' *Daubert* opposition addressing this argument and explaining that Dr. Solow did not shift theories). The Court finds that there was no shifting of theories or prejudice. *Id.* At this stage, Defendants and their experts have responded to all of Dr. Solow's opinions and addressed the economics of industry supply exhaustively.

158. Courts have long accepted such analyses for purposes of antitrust class certification, and the Court follows this authority here. *See* Dkt. No. 404 at 11 (collecting cases).

Wright Opinions

159. The opinions of Plaintiffs' industry expert, Dr. Jeryl Wright, respond to Defendants' experts and industry witnesses, corroborate Dr. Solow, and provide independent support for Plaintiffs' claims. Dkt. No. 390, Ex. 3 ("Wright Rep.").

160. Dr. Wright earned his doctorate in metallurgical engineering from MIT and spent decades working as an engineer, mill operator, and executive in the steel industry. *Id.* Defendants do not dispute Dr. Wright's expertise and have not sought to exclude his testimony.

161. As a general matter, there is little disagreement among the various industry experts about the facts of steel production. The dispute is one of emphasis.

162. Plaintiffs and Dr. Wright emphasize the extent to which industry furnace production is flexible and thus substitutable, such that production and price for class products is linked not only as a matter of economic theory (as Dr. Solow explained) but as a matter of industry reality. Wright Rep. at 10-17.

163. Defendants and their witnesses emphasize the complexity of steelmaking—the diversity of steel chemistry, finished product specifications, prices, customers, and the fact that certain mills do not make certain products. According to Defendants, these differences defeat common impact from the alleged cartel despite the common furnace stage of production.

164. Plaintiffs argue that variation in chemistry and finished product specifications does not defeat a finding of common price effects from the industry's raw steel production cuts, and that in fact finished product differentiation is precisely the reason industry executives focused their efforts at the furnace stage of production. Dkt. No. 389, at 7-8 and 15.

165. As Dr. Wright testified at the class certification hearing, Plaintiffs' theory of the case and the opinions of Dr. Solow are consistent with industry reality, because cutting furnace production "impacts every product that comes through that mill. And that's . . . that's as fundamental as anything steelmaking can get." 3/5/14 Hearing Tr. at 253-54; *see also id.* at 255 ("All I can tell you is that if you reduce primary production capability, you're going to affect the marketplace. That's as fundamental as anything I've seen.").

166. The Court finds that Dr. Wright's opinions are reliable and will assist all class members on the merits, and thus support a finding of predominance. Plaintiffs and Dr. Wright have demonstrated that their evidence of class-wide impact comports with steel market reality.

Price Data

167. Plaintiffs point to industry price data as relevant proof of class-wide impact. Dkt. No. 307 at 36-37; Dkt. No. 389 at 54-57. According to Plaintiffs, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

168. Plaintiffs also note that the actual price data is consistent with Plaintiffs' allegation of class-wide harm, and with Defendants' contemporaneous statements regarding their success in raising prices throughout the industry by restraining production. *Id.*

169. Defendants argue that "average" prices cannot be used for this purpose because such prices do not shed relevant light on individual class member injury. Dkt. No. 358 at 51.

170. The Court finds that Plaintiffs' price data can be used to assist all class members on the merits. Plaintiffs have placed the price data in context and explained how it can be used in a reliable way. *See* Dkt. No 387 at 54-57. Plaintiffs have shown, moreover, that Defendants'

own executives relied on similar data as a useful representation of market trends over time. *Id.* See Dkt. No. 389 at 56-57 (collecting cases accepting such evidence at class certification stage).

171. While Defendants are entitled to challenge the probative value of such data on the merits—for example, pressing their arguments about “average” prices or whether price trends were really the same across product categories—that is different from attempting to foreclose Plaintiffs from using the data at all.

McClave Opinions

172. Plaintiffs have introduced the expert opinions of Dr. James McClave, an experienced econometrician, to assess whether common econometric proof can be used to estimate class-wide overcharges. Using standard methodology, Dr. McClave found that prices were elevated artificially and systematically across class products, Defendants, and customers during the relevant period. Dr. McClave thus offers the opinion that common econometric evidence can be used to show class-wide impact and damages. See Dkt. No. 308, Ex. 3 (“McClave Rep.”); Dkt. No. 390, Ex. 2 (“McClave Rebuttal Rep.”); Dkt. No. 407 (Plaintiffs’ *Daubert* brief); Dkt. No. 389 at 42-54.

173. Defendants do not challenge Dr. McClave’s qualifications but criticize his opinions on several grounds for purposes of *Daubert* and class certification. Dkt. No. 375 (Defendants’ *Daubert* brief); Dkt. No. 429 (Defendants’ *Daubert* reply).

Standards

174. As with other contested proof, the Court must engage in rigorous analysis of the record to find that the requirements of *Daubert* and Rule 23 are met. At the same time, the Court of Appeals has emphasized the “latitude we afford to statisticians employing regression analysis, a proven statistical methodology used in a wide variety of contexts.” *Manpower, Inc. v. Ins. Co.*

of Pennsylvania, 732 F.3d 796, 808 (7th Cir. 2013). “[T]he Supreme Court and this Circuit have confirmed on a number of occasions” that qualified experts are entitled to disagree about regression issues and that disputes about the “conclusions produced by an accepted methodology should normally be left to the jury.” *Id.* See also *Fructose*, 295 F.3d at 660 (accepting “responsible though of course not necessarily correct” regression analysis in cartel litigation).

175. Plaintiffs’ statistical evidence also must be considered in light of the record as a whole. See, e.g., *Bazemore v. Friday*, 478 U.S. 385, 401 (1986) (court must “examine the regression analyses in light of all the evidence in the record”); *Adams v. Ameritech Servs., Inc.*, 231 F.3d 414, 425 (7th Cir. 2000).

Methodology

176. Multiple regression analysis is a standard methodology used to estimate cartel overcharges. Dkt. No. 407 at 9 (collecting cases).

177. The specific approach used by Dr. McClave, known as a “dummy variable” regression model, is equally well accepted. *Id.* See also 4/11/14 Hearing Tr. at 149 (Professor Hausman agrees and has used similar methodology to estimate antitrust damages).

178. This type of regression model attempts to identify and control for independent price drivers in the industry—variables such as cost, demand, product, and producer—and uses those variables to estimate what competitive prices would have been absent the alleged conspiracy. See generally *Bigelow v. RKO Radio Pictures, Inc.*, 327 U.S. 251, 264 (1964) (antitrust injury can be established with evidence of price changes not attributable to competitive forces); *Loeb Indus. Inc. v. Sumitomo Corp.*, 306 F.3d 469, 490 (7th Cir. 2002) (“It is certainly acceptable through expert economic testimony to make a reasonable estimation of actual [antitrust] damages through probability and inferences.”).

179. Applying this methodology, Dr. McClave studied the industry and performed extensive regression testing to identify the variables that explained steel prices with a high degree of statistical confidence during the period of analysis (2002-2009).

180. Dr. McClave specified two primary models: a flat product model and a long product model. In response to Defendants' criticisms, Dr. McClave also specified two additional types of models to test his original models' reliability: an individual customer-level model and a "forecasting" model. *See* McClave Rebuttal Rep. at 4, 6-8, 46.

181. The models incorporate nearly 30 million transactions found in Defendants' sales databases for an eight year period spanning 2002-2009.

182.

[REDACTED]

183.

[REDACTED]

184.

[REDACTED]

185. Dr. McClave's models explained over 92% of industry price variability over the 2002-2009 timeframe, an exceptional result. *See id.* at 14-15.

186. After controlling for competitive forces, the models identified systematic, sustained, and highly statistically significant overcharges during the alleged class period—across all products, Defendants, and customers in the aggregate amount of \$5.8 billion. *Id.* at 17.

187. The models were economically sensible and supported by foundation, passed all standard tests of statistical significance, and were robust to further testing. *Id.* at 14-17. These results informed Dr. McClave's conclusions about the scope and extent of class injury and damages and whether common econometric proof can be used on the merits. *Id.*

188. Dr. McClave has explained and defended his opinions in reports and deposition testimony, and presented live testimony at the class certification hearing.

189. For these reasons and those that follow, the Court finds that Dr. McClave's opinions are relevant and reliable for purposes of *Daubert* and class certification.

Average Prices

190. Defendants' first critique relates to Dr. McClave's use of averages. Defendants argue that Dr. McClave used 25 "artificial" product categories to reduce Defendants' transaction data from 30 million transactions to approximately 6,700 weighted average monthly price "observations" for regression analysis. Defendants contend that this approach improperly "masked" variation in steel prices. Dkt. No. 407 at 18.

191. The Court rejects this argument. Dr. McClave has explained that he used standard econometric methods to process and combine the eight Defendants' voluminous sales and transaction data in order to group steel products in a reasonable way for purposes of regression analysis. *Id.* at 18-22; 3/6/14 Hearing Tr. at 314-15.

192. Dr. McClave cites extensive foundation for his product groupings and notes that they are consistent with those used in Defendants' financial reports, as well as those used in Professor Hausman's ITC analysis. Dkt. No. 407 at 19.

193. More fundamentally, Dr. McClave has shown that the 6,700 observations used in the models are representative of price trends for the underlying 30 million customer transactions. Dr. McClave has demonstrated this point with a number of explanations and data charts, which the Court credits as persuasive. McClave Rebuttal Rep. at 15-17 and Exhibits 3-8; Dkt. No. 407 at 21; 3/6/14 Hearing Tr. at 325-26.

194. Dr. McClave further notes that his use of averages was conservative because he used "weighted" average price data, *i.e.*, his analysis afforded greater weight to the largest customers, which typically received the lowest prices in the marketplace. McClave Rebuttal Rep. at 2-3; Dkt. No. 407 at 20.

195. Dr. McClave also tested Defendants' criticism by applying the models without using any averaged price data at all, *i.e.*, he ran the models using all 30 million transactions as price observations. Dr. McClave obtained nearly identical results in this situation, finding systematic price inflation across class products and customers. Indeed, the overcharge estimate was slightly higher, which supports Dr. McClave's view that his original analysis was conservative. McClave Rebuttal Rep. at 6-8; Dkt. No. 407 at 21-22.

196. These facts are unlike *Reed v. Advocate Health Care*, 268 F.R.D. 573 (N. D. Ill. 2009), in which the plaintiffs alleged a conspiracy to suppress nurse wages at Chicago area hospitals. The expert in *Reed* used average wage data and a "vague and inscrutable" methodology that failed to account for the myriad individual factors influencing a particular nurse's wages, leading to models with demonstrably weak statistical properties. *Id.* at 592

(regression results far inferior to Dr. McClave's results here). For these and many other reasons, the court rejected the analysis. *Id.*

197. Dr. McClave's models do not suffer from these issues. Dr. McClave went to great lengths to develop standard (and economically coherent) multiple regression models using all available industry data at the class certification stage of the case. As explained above, Dr. McClave controlled for dozens of products, Defendants, and other variables; incorporated nearly thirty million steel transactions; and based his regression analysis on thousands of reliable and representative price observations during the relevant period. The models did not "mask" industry price variation but controlled for it in a reasonable way, as confirmed by application of the models at the individual transaction and customer levels, which delivered the same results. *See* Dkt. No. 407 at 26-28 (addressing *Reed*).

198. Moreover, Defendants are incorrect to suggest that any use of averages by a damages expert is somehow *per se* unreliable. The law is to the contrary. *See* Dkt. No. 407 at 10 (collecting many cases accepting average class-wide overcharge models); *see also In re Flonase Antitrust Litig.*, 284 F.R.D. 207, 228 n.25 (E.D. Pa. 2012) (distinguishing *Reed*).

199. In fact, multiple regression analysis *by definition* makes use of averages to identify the underlying trends in a particular industry or data series, and there can be no suggestion that regression evidence is unreliable on that basis alone. *See* Federal Judicial Center, *Reference Guide on Multiple Regression* (3d ed. 2012) at 334 ("Multiple regression . . . is a method in which a regression line is used to relate the average of one variable—the dependent variable—to the values of other explanatory variables.")

200. The Court finds Dr. McClave to be reliable on the issue of average price data.

Individual Customer Injury

201. Defendants next argue that Dr. McClave's models are flawed for estimating a single class overcharge percentage (5.6% for flat and 7% for long) rather than customer-by-customer regression estimates. Defendants argue that Dr. McClave's methodology does not support his opinion that "all or nearly all" class members were injured. Dkt. No. 375 at 19.

202. Dr. McClave has explained the theoretical and factual bases for his opinions, including the nature of statistical analysis and inference, as well as the reasons the class-wide model (using *all* industry data to estimate overcharges) is preferable in this case to customer-by-customer analysis (in which overcharge estimates turn on individual customer sample sizes, some of which are very small). *See* Dkt. No. 407 at 25; McClave Rebuttal Rep. at 4-9; *see also* 3/6/14 Hearing Tr. at 386-87 (forecasting model further rebuts Defendants' arguments about class-wide overcharge methodology).

203. Plaintiffs also point to extensive authority approving Dr. McClave's class-wide overcharge methodology in similar matters. Dkt. No. 407 at 9-10.

204. The Court finds Dr. McClave credible and reliable on this point. Dr. McClave has a responsible basis for his statistical inference and conclusions: namely, decades of experience modeling the effects of cartels, the rigorous analysis in which he engaged, and the results and statistical strength of his models.

205. As Dr. McClave notes, multiple regression analysis is simply a way of using available data to shed relevant, but necessarily probabilistic, light on the question of interest—in this case the question of class-wide injury. Dkt. No. 407 at 25 ("In both statistics and life, we rarely know anything with certainty. But reliable econometric models allow reasonable

statistical inferences to be drawn about the fact, scope and extent of individual class member injury, which is precisely what I have done in this case.”); *accord BCS Services*, 637 F.3d at 758.

206. Where, as here, a standard, accepted, and economically sensible regression model shows persistent and significant overcharges across class products, producers, and customers during the period of interest, it falls well within an econometrician’s expertise to offer opinions about the existence of class-wide injury and damages. *See* Dkt. No. 407 at 9-11 (collecting cases accepting similar analyses).

207. Dr. McClave’s opinions on this point are supported directly by the results of the models. The most common measure of a model’s ability to explain the industry data is known as the R-squared. *FJC Reference Guide*, at 355. There is no dispute that the R-squared values are very high in this case (92-95%), meaning the models explain industry price trends with a high degree of reliability for all products and producers over time. Dkt. No. 407 at 14 (very high R-squared, as Professor Hausman accepts); *Griffin v. Board of Regents of Regency Univ.*, 795 F.2d 1281, 1292 n.23 (7th Cir. 1986) (R-squared “is clearly relevant to the validity of the model”).

208. The models pass other standard tests for economic and statistical reliability; the overcharge estimates are highly statistically significant; and the models estimate systematic overcharges for all Defendants and major steel products. McClave Rebuttal Rep. at 9 (statistical and economic significance support conclusions); *id.* at 11, 14-15 (systematic overcharge across Defendants and products support conclusions); 3/6/14 Hearing Tr. at 329 (same).

209. Moreover, Dr. McClave has tested Defendants’ criticism directly by applying the models at the individual customer level. That is, even when the models were applied on a customer-by-customer basis, they showed overcharges and injury for nearly all class members. *See* McClave Rebuttal Rep. at 6-9 (overall results of individual customer analysis nearly

identical to original models, with over 90% of customers representing over 99% of class sales having suffered injury). These tests corroborate the original models and support Dr. McClave's opinions that overcharges were systematic and class-wide.

210. Having considered Defendants' arguments, the Court finds that Dr. McClave's opinion sheds relevant and reliable light on the question of class-wide impact.

Econometric Issues

211. Defendants next point to various technical criticisms of Dr. McClave's models, including "omitted" variables, the "benchmark" period, serial correlation, and the Hausman test.

212. Defendants assert that Dr. McClave's models suffer from "omitted variable" bias because he should have incorporated a number of additional variables into the models to account for, *inter alia*, [REDACTED]

213. These types of variable disputes generally go to the probative value of a model, not its admissibility. *See* Dkt. No. 407 at 35 (collecting cases); *Manpower*, 732 F.3d at 808 ("[T]he Supreme Court and this Circuit have confirmed on a number of occasions that the selection of the variables to use in a regression analysis is normally a question that goes to the probative weight of the analysis rather than to its admissibility"). Nevertheless, Dr. McClave has tested each of Defendants' criticisms and responded credibly to all of them.

214. For example, [REDACTED]

[REDACTED]

[REDACTED]

McClave Rebuttal Report at 40-41; *see also Fructose*, 295 F.3d at 660-61 (similar variable dispute involving multicollinearity goes to probative value).

215.

216.

217.

218.

219. Dr. McClave also states that the manner in which Professor Hausman inserted alternative variables into the models was both statistically and economically improper and was done in a manner seemingly designed to make damages disappear. *Id.* at 40; *see Fructose*, 295 F.3d at 660 (“add[ing] a couple of variables” tactics from defense expert do not cast doubt on model reliability under *Daubert*).

220. The Court finds that Defendants’ variable arguments do not defeat the fundamental reliability of Dr. McClave’s analysis for purposes of *Daubert* and class certification.

Dr. McClave has offered credible explanations for the variables he did and did not include and has shown, moreover, that many of Defendants' suggested variables either have little effect or actually increase the damage estimate. The variables Dr. McClave used, in contrast, are reliable in terms of explaining industry prices and meet standard tests for economic and statistical significance. The Court finds that the parties' disputes on these issues go to probative value, not reliability. *See Manpower*, 732 F.3d at 808; *Fructose*, 295 F.3d at 660-61.

221. Defendants also criticize the competitive "benchmark" period Dr. McClave used for his models (2002-2004 and 2008-2009), arguing that Dr. McClave improperly included the "Great Recession" in the benchmark and that a so-called "Chow Test" reveals reliability issues with the benchmark period in general. *See* Dkt. No. 407 at 33-35.

222. Dr. McClave responds in three ways. First, he argues that the benchmark period is in fact reliable—that by modeling industry prices both before and after the alleged conspiracy period over an eight-year timeframe that included periods of relatively high and relatively low prices and a certain degree of price/cost/demand variability, the models incorporate an enormous quantity of useful data about steel price trends. Dr. McClave has explained that using all of this industry data makes the regression analysis more reliable, not less. *See* Dkt. No. 407 at 33-35 (Plaintiffs' benchmark/Chow test briefing); McClave Rebuttal Rep. at 44-45.

223. Second, he tested the models without including the Great Recession period, and found positive and significant overcharges as with his original models. 3/6/14 Hearing Tr. at 355-57; Dkt. No. 472, PX-139 at 23-24 (bar charts).

224. Third, in response to Defendants' "Chow Test" argument, Dr. McClave tested the models using a "forecasting" methodology. Because the forecasting models delivered nearly

identical results, Dr. McClave explained that Defendants' Chow Test argument lacks merit and casts no doubt on the models. McClave Rebuttal Rep. at 46-48; 3/6/14 Hearing Tr. at 360-63.

225. The Court credits Dr. McClave's responses on the benchmark and Chow Test issues for purposes of *Daubert* and class certification. Dr. McClave persuasively explains that using the entire 2002-2009 data set, including the post-conspiracy period data, is reasonable and reliable and allows the model to accurately estimate and control for the market forces that drive steel prices. The fact that the model fits the entire data series as well as it does—both before and after the conspiracy period, including through the Great Recession—supports Dr. McClave's position, as do the results of the forecasting model.

226. Indeed, even Professor Hausman accepts that the models do a good job in terms of explaining prices throughout the 2002-2009 timeframe. *See, e.g.*, 4/11/14 Hearing Tr. at 162 (“Q. But the model fits the data pretty well? A. Yes, I’m not disagreeing.”); *id.* at 163 (“the model does pretty well . . . I’m not disagreeing that the model does pretty well.”).

227. The model's overall performance and reliability throughout the eight-year period of analysis supports applying it to estimate competitive steel industry prices for the time period in the middle of that range: the alleged 2005-2007 conspiracy period.

228. Defendants raise several other statistical arguments concerning the model, including serial correlation and the Hausman specification test.

229. The parties' experts agree that the steel industry data in this case is characterized by serial correlation, but disagree about how to account for it. Dkt. No. 389 at 38-39.

230. As Plaintiffs have explained, serial correlation is a common issue in large “panel data” series such as these, and two general and accepted approaches are used to address it. *Id.* The first, followed by Dr. McClave, is to account for the presence of serial correlation when

conducting tests for statistical significance. *Id.* The second, used by Dr. Hausman, is to attempt to correct for the exact nature of the correlation. *Id.*

231. The Court credits Dr. McClave's approach as reliable. Dr. McClave has addressed the issue and criticized Professor Hausman's proposed alternative methodology as unsuited to the data in the case. At most, this issue involves a dispute about two different but acceptable econometric methods to account for serial correlation, which is not a basis for exclusion. Fed. R. Evid. 702 (Rule 702 "is broad enough to permit testimony that is the product of competing principles or methods in the same field of expertise"); *see also Southwire Company v. J.P. Morgan Chase & Co.*, 528 F. Supp. 2d 908, 926-30 (W. D. Wisc. 2007) (rejecting serial correlation and other technical challenges to antitrust regression analysis).

232. Dr. McClave also has explained that the Hausman test does not cast doubt on the model. McClave Rebuttal Rep. at 31-32; Dkt. No. 407 at 32-33. According to Dr. McClave, Professor Hausman's application here involved comparison of inapposite alternative steel industry models and, in any event, does not compel the conclusion that Dr. McClave's model is flawed given the standard tests of reliability emphasized by Dr. McClave, all of which the models passed. *Id.*; *see also* 4/11/14 Hearing Tr. at 190 ("I don't think that the Hausman test is even relevant in this case"); 3/6/14 Hearing Tr. at 354 ("I think the way [Dr. Hausman] applied his tests ends up in . . . an unreasonable comparison of models and the specification I used is the one that holds up as correct"). *See* Fed. R. Evid. 702, Advisory Committee Note ("expert testimony cannot be excluded simply because the expert uses one test rather than another, when both tests are accepted in the field and both reach reliable results").

233. The parties' various technical econometric disputes reflect reasonable professional disagreements among qualified experts. The Court finds that Defendants' criticisms

do not compromise the relevance or reliability of Dr. McClave's analysis for purposes of *Daubert* and class certification.

"False Positives"

234. Defendants make two separate arguments that Dr. McClave's models estimate so-called "false positive" damages and are therefore unreliable under *In re Rail Freight Fuel Surcharge Antitrust Litig.*, 725 F.3d 244 (D.C. Cir. 2013).

235. Preliminarily, the term "false positive" as used in this context is a "lawyer's name," not an economic or econometric term. 4/11/14 Hearing Tr. at 170 (Hausman) ("Q. Is false positives an econometric term? A. No . . . the lawyers named it false positives.").

236. Defendants' first "false positive" argument is that, in the competitive period used as the models' benchmark (2002-2004 and 2008-2009), the model does not fit the data perfectly. That is, Defendants argue that monthly "variances" between the model's estimated prices and actual industry prices exceed \$1 billion during the benchmark period—particularly in a portion of 2004 in which actual market prices were higher than the model predicts. Dkt. No. 429 at 10-15 (Defendants' *Daubert* reply brief).

237. Professor Hausman did not call this a "false positive" in his original report. Instead, he hypothesized that the divergence in 2004-era prices stemmed from Dr. McClave's purported failure to account for the effect of China in his models. Hausman Rep. at 77-78. After Dr. McClave rebutted this China argument, see McClave Rebuttal Report at 43-44, Defendants argued for the first time in their *Daubert* reply brief that the variances instead represent "false positives" that undermine the model's reliability. Dkt. No. 429 at 10-15.

238. The Court disagrees. Essentially, Defendants' position is that a regression model must be perfect to be reliable—that the R-squared must be 100% and the model must estimate

industry prices with exact precision during the competitive benchmark period. Any time the predicted price and actual price varied at all would be deemed a “false positive.”

239. Both Dr. Solow and Dr. McClave have explained that this is not the standard by which real-world regression models are evaluated because there is always some variance between actual market data and the regression estimate; that is the very nature of regression modeling. 3/5/14 Hearing Tr. at 112-115 (Dr. Solow explaining that no real-world model meets the standard suggested by Defendants, that R-squared and other standards tests are the proper metric, and that by those measures Dr. McClave’s models are exceptionally sound); 3/6/14 Hearing Tr. at 342-43 (McClave) (same). *See also* FJC Reference Guide, at 335.

240. As Dr. McClave notes, the models fit the data extremely well during the benchmark period (albeit not perfectly) and capture overall industry price trends, both up and down, throughout the eight-year period of analysis. *Id.* Dkt. No. 472, PX-139 at 8, 10 (McClave hearing demonstratives). The models’ reliability in this regard is confirmed by the very high R-squared values and other statistical properties. Dkt. No. 407 at 14.

241. Dr. McClave also notes a difference in kind between the estimated/actual variance in the benchmark period and the estimated overcharge in the class period: as a whole, the model estimates essentially zero net overcharge during the benchmark period whereas the overcharge is persistent, significant, and positive throughout the cartel period in the aggregate amount of \$5.8 billion. 3/6/14 Hearing Tr. at 343 and 428.

242. The *Rail Freight* decision is irrelevant to Defendants’ attempt to label all variance where modeled prices exceed actual prices a “false positive.” As discussed below, that case involved so-called “false positives” in the context of pre-conspiracy contract transactions. It did not address Defendants’ “benchmark variance” argument at all, and Defendants cite no other

authority in support of their extreme position. *See* Dkt. No. 429 at 10-15 (citing no case remotely addressing these facts).

243. The Court finds Dr. McClave credible and reliable on this issue. The instances of benchmark period variance may be a matter for cross examination at trial, but do not cast doubt on the models' reliability for purposes of *Daubert* and class certification. Perfection is not the standard for real-world regression models. *Messner*, 669 F.3d at 808 ("it is important not to let a quest for perfect evidence become the enemy of good evidence"); *see also J. Truett Payne*, 451 U.S. at 565-66 ("Damage issues in these cases are rarely susceptible of the kind of concrete, detailed proof of injury which is available in other contexts The vagaries of the marketplace usually deny us sure knowledge of what plaintiff's situation would have been in the absence of the defendant's antitrust violation.") (citations and internal punctuation omitted).

244. Moreover, the claimed "billion" dollar false positives suggested by Defendants do not contribute to Plaintiffs' damage estimates. The benchmark period variances cited by Defendants occur *outside* the class period, and Plaintiffs are not seeking to recover any damages for that timeframe. 4/11/14 Hearing Tr. at 263.

245. Defendants' second "false positive" argument relies on *Rail Freight*. In connection with their *Daubert* reply briefing, Defendants submitted a new expert report from Professor Hausman in which he argued, for the first time, that he had identified fixed-price pre-conspiracy contracts under which prices were higher during the conspiracy period than Dr. McClave's estimated competitive price. Defendants contend this was the same issue that led the court to reject the damage model in *Rail Freight*. *See* Dkt. No. 429 at 8-9.

246. Professor Hausman testified at the class certification hearing that this particular criticism does not apply to Dr. McClave's original class-wide damage model (*i.e.*, the model Dr.

McClave is actually putting forward) but rather to Dr. McClave's individual customer model (which Dr. McClave simply used to test other criticisms raised by Professor Hausman). 4/11/14 Hearing Tr. at 179-80.

247. Even with respect to Dr. McClave's customer level model, Defendants' *Rail Freight* critique does not hold. The background facts are as follows. In 2004, before the alleged conspiracy period, steel prices were relatively high. *See* Dkt. No. 407 at 16 (price chart). In early-2005, however, prices began to fall throughout the industry, which according to Plaintiffs is what motivated the cartel. *See Standard Iron Works*, 639 F.Supp.2d at 884 (discussing these trends); [REDACTED]

248. Because of these market dynamics, [REDACTED]

249. [REDACTED]

250. Both Dr. Solow and Dr. McClave have explained why this exercise does not cast doubt on the models.

251. First, the fact that a particular steel customer entered an unfavorable contract in 2004 (a period of high prices in the industry) says nothing as a matter of logic, economic theory, or econometrics about whether Dr. McClave's model does a reliable job of estimating "competitive" industry prices in 2005. All this shows is that the model accurately captures the industry's overall price trend in early-2005—a downward trend relative to 2004—which is exactly what a reliable model is supposed to do. 3/5/14 Hearing Tr. at 116-117 (Solow) ("Q. -- if that were the fact pattern, would this pre-conspiracy contract cast any doubt on the reliability of a competitive price estimate from a regression model? A. No, it wouldn't. All it would say to me is that that person made, after the fact, what ended up being a bad bet. At the time he made it, it might've been a perfectly reasonable bet to make but it ended up being a bad bet. Q. So as a matter of economic theory and as someone experienced with regression modeling, does this pre-conspiracy contract issue cast any doubt on your opinion about the reliability of the model? A. No, it does not."); 3/6/14 Hearing Tr. at 340-43 (McClave) (same: "the use of these contracts, in my opinion, to try to impugn the model doesn't make sense").

252. Second, Defendants' contract exercise is not a valid econometric test of an industry model based on 30 million transactions and 8 years of data. Whether a hand-selected subset of contract transactions fall above the regression line does not cast doubt on such a model. The proper tests of a model's reliability are standard econometric measures, such as R-squared, model coefficients, and statistical significance tests. 3/5/14 Hearing Tr. at 113 (Solow) ("That's how we test the validity of models"); 3/6/14 Hearing Tr. at 310-30 (McClave) (explaining many standard tests done to validate model).

253. Even Professor Hausman concedes that the mere fact that certain legacy contract prices are higher than the model's predicted prices does not necessarily cast doubt on the model as a matter of economics or econometrics. 4/11/14 Hearing Tr. at 174 ("Q. And is it your opinion that because Dr. McClave's model estimates but-for prices that were lower than contract prices, the model must be unreliable? A. No.").

254. Instead, Professor Hausman says the point of his legacy contract "false positive" argument is that it shows Dr. McClave failed to account for contracts. *Id.* at 103 ("The core thing that's wrong with the model is, he doesn't take into account that this very high proportion of steel is sold by contract . . . and you need to take that into account in your model.")

255. That is not a criticism that appears in Professor Hausman's original expert report in this case and, indeed, Professor Hausman testified in his deposition that business documents and customer contracts "weren't that important" to his analysis. Hausman Dep. at 235:4.

256. In any event, Dr. McClave's models account for and explain contract pricing. The models are based on actual steel transaction prices for thousands of customers over an eight-year period: nearly 30 million transactions for large contract and small spot purchasers alike. And what the models show is systematic overcharge for all class members—from General Motors to thousands of smaller customers. The models explain over 92% of this industry price data, including contract price data, with a high degree of statistical confidence.

257. Finally, Plaintiffs emphasize that there is no basis for the suggestion that the pre-conspiracy contracts identified by Defendants will inflate the ultimate damage estimate, because such contracts and transactions are expressly excluded from the class definition. *See* Dkt. No. 307 at 21-22 (class definition); 4/11/14 Hearing Tr. at 267.

258. The Court finds that, on the facts presented here, the pre-conspiracy contracts identified by Professor Hausman do not impugn the reliability of Dr. McClave's analysis. [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED] but that says little if anything about whether Dr. McClave's model does a reasonable and reliable job of estimating competitive prices for the 2005 timeframe based on *all* the industry price data for that period. For the reasons explained above, the Court finds that it does.

259. *Rail Freight* is not to the contrary. The point of the D.C. Circuit's remand in *Rail Freight* was to order factual development and findings on whether the Defendants' "false positive" argument in fact cast doubt on the reliability of that particular damage model. *Rail Freight*, 725 F.3d at 255. The issue had not been developed or addressed by the trial court in the first instance; the court of appeals reversed on that basis; and the case is currently on remand for precisely those findings.

260. Here, the facts and the arguments relating to these contracts and models have been fully presented and considered. Defendants' arguments do not defeat the reliability of Dr. McClave's analysis. The Court finds the testimony of Drs. Solow and McClave to be credible, reliable, and supported by the record.

Comcast

261. Defendants' final criticism of Dr. McClave involves the Supreme Court's recent decision in *Comcast v. Behrend*, 133 S.Ct. 1426 (2013), a monopolization case in which Dr. McClave was the damages expert and the Supreme Court reversed an order granting class

certification. Defendants argue that, under *Comcast*, Plaintiffs were required to model “but for production” to link their liability theory to their damage estimate. Dkt. No 429 at 28-29.

262. Plaintiffs argue that Defendants fundamentally misapprehend basic principles of cartel damage modeling, under which the standard approach is to do precisely what Dr. McClave has done: use independent industry variables such as cost, demand, product and producer to estimate the *but for price* that would have prevailed absent collusion, rather than including in the model variables “tainted” by the conspiracy such as production or capacity utilization. Dkt. No. 389 at 51-54 (Plaintiffs’ *Comcast* briefing).

263. As an initial matter, the law is well-established that “[a]n agreement on output also equates to a price-fixing agreement . . . raising price, reducing output, and dividing markets have the same anticompetitive effects.” *Gen'l Leaseways*, 744 F.2d at 594-95. Because cartels have the same anticompetitive effects no matter the means by which they operate, the relevant question for purpose of cartel damage estimation is the “but for” *price* that would have prevailed absent the conspiracy. *See generally Chattanooga Foundry & Pipe Works v. City of Atlanta*, 203 U.S. 390, 396 (1906) (overcharge is the standard measure of cartel injury and damages).

264. As Plaintiffs have explained, the multiple regression methods used to estimate “but for” price are well-established and applied routinely in cartel cases, including both price-fixing and supply restriction matters. *See* Dkt. No. 407 at 9 (collecting cases); *see also In re Linerboard Antitrust Litig.*, 497 F. Supp. 2d 666 (E.D. Pa. 2007) (explaining these principles and accepting similar model in supply case). These are precisely the methods used by Dr. McClave.

265. Dr. McClave also has explained that it would have been demonstrably unreliable to incorporate a production or capacity utilization variable in the model because an accepted rule of cartel damage modeling is to avoid including such “tainted” variables in the analysis. 3/6/14

Hearing Tr. at 302-04 (Dr. McClave explaining this point); 4/11/14 Hearing Tr. (“damages 101 teaches us you don’t put the variable in the model that the plaintiffs are alleging may have caused price increases”). Nor have the Defendants cited any cartel case in which a model has been excluded on this basis. Dkt. No. 429 at 28-30.

266. For all of these reasons, the Court rejects the argument that Plaintiffs were required to model but-for production and credits Plaintiffs’ experts on this issue. *See Linerboard*, 497 F. Supp. 2d at 681 (cartel damage model should exclude tainted variables like production and capacity utilization “that could be affected by defendants’ conduct”).

267. *Comcast* holds that Plaintiffs’ damage model must be consistent with the liability case, 133 S.Ct. at 1433, and that standard is readily met. To evaluate this question, Dr. McClave’s work must be considered in context. *See Bazemore*, 478 U.S. at 401. The damage models in this case show systematic overcharges during the period April 2005-December 2007—precisely the timeframe for which Plaintiffs have presented extensive independent proof of industry collusion having class-wide price effects. The statistical evidence is consistent with Plaintiffs’ conspiracy evidence, the documentary proof of impact (including what Defendants themselves said), the industry price and production data, steel industry economics as explained by Dr. Solow, steel industry reality as explained by Dr. Wright, and more.

268. The Court finds that Dr. McClave’s damage model is consistent with and corroborated by Plaintiffs’ liability case under *Comcast*.

Conclusion—McClave

269. Having rigorously evaluated Dr. McClave’s qualifications, process, methodology, and the bases for his opinions—including his direct responses to Defendants’ criticisms and

cross examination at the hearing—the Court finds Dr. McClave’s opinions to be credible, relevant and reliable for purposes of *Daubert* and class certification.

COMMON PROOF OF DAMAGES

270. Defendants also challenge whether Dr. McClave’s testimony can be used as common proof of damages, arguing that damage calculations are necessarily individualized. Dkt. No. 358 at 45-46.

271. Plaintiffs contend that aggregate class damage estimates are well-accepted in cartel litigation and that “use of aggregate damages calculations is well established in federal court and implied by the very existence of the class action mechanism itself.” *In re Pharmaceutical Indus. Avg. Wholesale Price Litig.*, 582 F.3d 156, 197 (1st Cir. 2009). *See also In re Scrap Metal Antitrust Litig.*, 527 F.3d at 532-34 (6th Cir. 2008) (approving aggregate class damage judgment); Dkt. No. 389 at 49-50 (additional authority).

272. Plaintiffs note that Dr. McClave’s methodology allows for presentation of an aggregate total class damage estimate or, if necessary, customer-specific damage totals. Either way, Plaintiffs argue that common and reliable proof is available on damages and can be introduced through a common witness (Dr. McClave) on the merits, even though common proof of damages is not required to satisfy predominance. *See Butler*, 727 F.3d at 799-801.

273. The Court finds that Plaintiffs are capable of presenting common and reliable evidence relevant to damages at the merits stage of the case, in the form of the aggregate class damage estimates and/or the customer-by-customer analysis developed by Dr. McClave.

274. These common methodologies find substantial support in the case law and indeed are accepted by Defendants’ own expert, Professor Hausman, for purposes of damage estimation.

Dkt. No. 389 at 49-50 (cases); Hausman Dep. at 110:18-23 (“my understanding is it is okay to estimate aggregate damages or average damages”).

275. The Court also notes that antitrust damage estimates are subject to a relaxed burden of proof, under which reasonable analyses and approximations will suffice. *See Loeb*, 306 F.3d at 490. Dr. McClave’s work can be used to make this showing.

PREDOMINANCE AND SUPERIORITY ARE MET

276. The Court finds that Plaintiffs have shown by a preponderance of the evidence that their claims can be litigated using predominantly common proof. The antitrust conspiracy issues are central to Defendants’ liability and are common to all class members. Plaintiffs also have presented common, relevant, and reliable proof of class-wide impact and damages. “The ability to use such common evidence and common methodology to prove a class’s claims is sufficient to support a finding of predominance.” *Messner*, 669 F.3d at 819.

277. The Court finds that Rule 23(b)(3) superiority is met. Class certification is the most efficient way to resolve the numerous central and common issues presented by this litigation. *See Messner*, 669 F.3d at 815 n.5 (“the superiority requirement likely poses no serious obstacle to class certification here”); Dkt. No. 307 at 39-40 (collecting cases); Dkt. No. 389 at 63-64.

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CERTIFICATE OF SERVICE

I hereby certify that on this 12th day of May, 2014, I caused a true and correct copy of the foregoing **Plaintiffs' Proposed Findings of Fact and Conclusions of Law** to be filed under seal with the Court via the Court's ECF system, and served via e-mail to all counsel.

/s/ Matthew Duncan

Matthew Duncan